

32' x 10' x 10' Steel and PVC Greenhouse

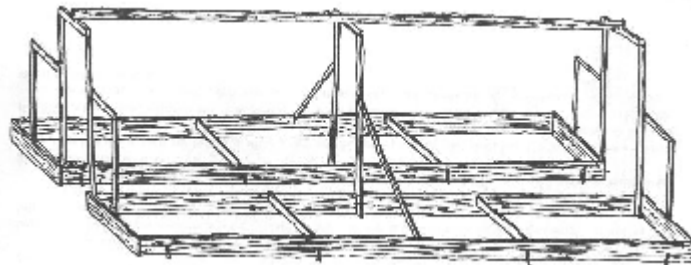
This is a steel re-enforced PVC frame for a large home or commercial greenhouse operation. This structure is considerably stronger than using PVC ribbing alone as it has PVC with steel rebar running inside the plastic pipe to add rigidity to the framework. The center ridgeline is made of 2x4s for added strength in windy or snowy climates. The finished sizes of the lumber are left to you, depending on how long you decide to make the greenhouse, and, the height and width of the foundation framing. Determine the ridge board from the overall length. Determine the hoop diameter/height from the chosen width of the ground or bench framing. Use these dimensions to get the end wall framing dimensions.

Greenhouse Materials List

- 1) 2" x 12" planks for sides of raised beds. Treated lumber preferred. (Non Arsenic! Treating)
- 2) 2" x 4" lumber - top ridge beam, center frame, door, end framing and bed bracing.
- 3) Steel T-type fence posts - cut 18"-24" for staking beds into ground
- 4) 20' x 1/2" steel rebar - placed inside 3/4" PVC for reinforcing hoops.
- 5) 20' x 3/4" PVC pipes- for hoops.
- 6) 3/4" metal pipe hanger brackets with screws.
- 7) Poly Plastic (4-6 mil, UV Resistant)- to cover length plus ends without seams. A 10' x 32' greenhouse will require 50' of 20' wide material. It will come in a 100' roll, leaving enough to replace it after 3 years or to cover another one.
- 8) Rabbit or gopher wire and heavy staples- protect beds from burrowing animals
- 9) Soil mix to fill the beds.

Options:

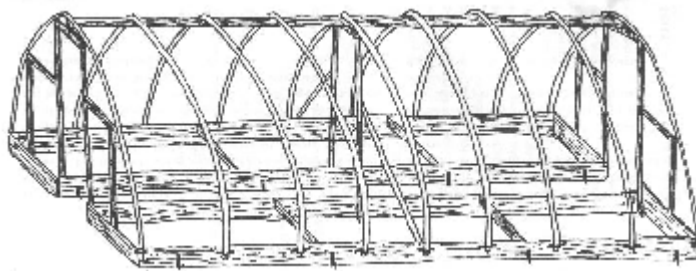
To make the greenhouse shorter or longer, subtract or add hoops and planks. Since the rebar, PVC pipe and plastic skin come in 20' maximum lengths, the width of the greenhouse will be set at 10' when the arch is 10' high in the middle. You can get wider floor space by lowering the height and a taller greenhouse by narrowing the width. If you do not need raised beds, (for example, you want potting benches inside instead) make the frame out of all 2x4s with bracing going from one side to the other along the floor.



Construction:

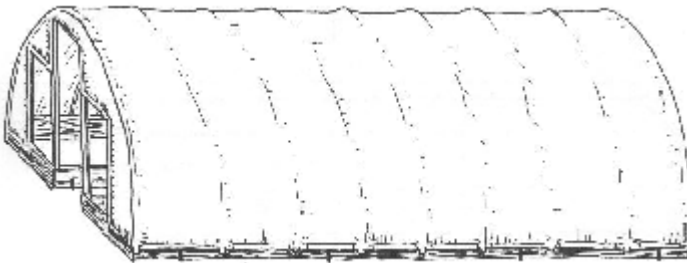
Construct wooden beds and frames on level ground (or adjust by excavating & terracing). Stake plank bed walls every 8 feet with a half of a sawed-off fence post. Fasten rabbit or gopher wire carefully on ground to leave no gaps.

Fill raised beds with Garden Mix you have made or selected.



Insert rebar into pipes on ground. Stand rebar/pipe up and secure the bottom end a little beneath the outer top edge of the side plank. Screw securely. Careful handling rebar, it can act like a spring and smack you!

With some neighborly help, bend the hoop down over the top beam -- it will form a perfect arch, but is under great tension in the final position. Secure and do the others. At both ends tack a nail on both sides of the pipe where it rests on the top beam, sinking the nails below the pipes' top surface so as not to rip the plastic later. The interior hoops do not require this.



Unroll greenhouse plastic being careful not to puncture or step on it. Drape it over the greenhouse frame. Begin at the center to fasten plastic to outer wall. Cut lath strips just the right length to fit between the hoops with an inch away from them on either side to allow for plastic stretching. Roll the plastic once or twice around the lathe strips toward the inside so rain will roll off. Nail securely. Be sure to roll and nail the edge evenly and stretch the skin as tight as possible sideways before securing skin edge. Be sure it will shed water, as a pocket of water could seriously damage your greenhouse.

Next begin at the center on the other side. Have your helper stretch the skin drum tight. Work out from the center to each end.

Take the loose ends and test-pull the top to determine how much to trim off to still have enough to roll in lath strips to fasten along the door top, but do not cut it yet. Try the sides, likewise. When you have the picture, mark with a laundry marker, trim the extra and find the appropriate spots to cut to make the lathe trim fit the square edges of the door and vent frames. Pull drum tight.

Fit doors and windows (vents) to ends. Make them airtight, no leaks, since the efficiency of this greenhouse depends upon vapor tightness. See section on ventilation to get tips on heating and cooling.